

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex Parte Oehler

Application for Patent: 09/932,456

Filed: August 16, 2001

Group Art Unit: 2152

Examiner: LEE, PHILIP C.

For:

COMPUTER SYSTEM PARTITIONING
USING DATA TRANSFER ROUTING MECHANISM

REPLY BRIEF

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Signed: /Emma Durrell/
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1. STATUS OF CLAIMS

[37 CFR 41.37(c)(1)(iii)]

The following claims have been rejected and appealed: 1-17, 19, 21-32, 34, and 36-41.

The following claims have been cancelled: 18, 20, 33, and 35.

In view of the new ground of rejection in the Examiner's Answer, the Appellant hereby respectfully requests that the appeal be maintained.

2. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

[37 CFR 41.37(c)(1)(vi)]

The issues which Appellant believes to be most pertinent to the present appeal:

None of the partitioning techniques described in the art of record may be combined with what the Examiner refers to as Applicant's admitted prior art (AAPA) to result in a partitionable system or partitioning method in which "the portion of the point-to-point transmission infrastructure in each partition [is] distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition." As will be discussed, this is due in large part to the fact that the nature of the interconnects employed by the prior art require significantly different approaches to partitioning than those described and claimed in the present application. Their teachings are therefore not relevant here.

In addition, in the Examiner's Answer mailed on March 6, 2008, the Examiner introduced a new ground of rejection under 35 U.S.C. 112, first paragraph, stating that the limitation relating to the "distinct" and "non-overlapping" nature of the claimed partitions recited in claims 1, 23, 36, and 39 is not supported by the specification. As will be discussed, Appellant respectfully submits that these limitations are fully supported by the specification as filed, and hereby requests that the current appeal be maintained.

The specific grounds of rejection to be reviewed are as follows:

Ground I: Whether claims 1-4, 6-10, 12, 13, 16, 21, 23-26, 28, 31, 36-37, 39, and 40 are unpatentable under 35 U.S.C. 103(a) over AAPA in view of U.S. Patent No. 5,303,383 (Neches).

Ground II: Whether claims 1, 15, 23, 30, 36, and 39 are unpatentable under 35 U.S.C. 103(a) over AAPA and Neches in view of U.S. Patent No. 6,961,761 (Masuyama).

Ground III: Whether claims 1, 5, 11, 19, 22, 23, 27, 34, 36, 38, 39 and 41 are unpatentable under 35 U.S.C. 103(a) over AAPA and Neches in view of U.S. Patent Publication No. US 2001/0037435 A1 (Van Doren).

Ground IV: Whether claims 1, 14, 17, 23, 29, 32, 36, and 39 are unpatentable under 35 U.S.C. 103(a) over AAPA and Neches in view of U.S. Patent No. 6,188,759 (Lorenzen).

Ground V: Whether claims 1-17, 19, 21-32, 34, and 36-41 comply with the written description requirement of 35 U.S.C. 112, first paragraph.

3. ARGUMENT

[37 CFR 41.37(c)(1)(vii)]

3.1. Grounds I through IV

The arguments set forth with respect to these grounds of rejection in the Appeal Brief and previous responses to office actions are reiterated and incorporated herein by reference in their entirety, and are therefore not repeated here. Instead, the Appellant would like to address the Examiner's responses to the Appellant's arguments as set forth on pages 15-20 of the Examiner's Answer.

The Examiner's responses to the Appellant's arguments focus on whether the various references combined by the Examiner either are "in the field of applicant's endeavor," or are "reasonably pertinent to the particular problem with which the applicant was concerned." The Examiner's primary position is that these issues are dispositive. However, a more careful reading of the record reveals that the Appellant's arguments have not focused on whether the cited references are "in the field of applicant's endeavor," or are "reasonably pertinent to the particular problem with which the applicant was concerned." Rather, the Appellant has consistently made the point that the combinations with AAPA proposed by the Examiner either do not result in operable systems or, when combined, do not include all of the limitations recited in the claims of the present application, and should therefore be withdrawn.

For example, the teachings of Neches and AAPA (represented by Fig. 2 of the present application) are not technically compatible. That is, because Neches describes an indivisible switch fabric, the partitioning technique described in Neches would have to be significantly altered to be operable in the kind of point-to-point infrastructure described in the present application with reference to Fig. 2. Neches does not contain any teachings as to how this might be accomplished, or even any suggestions that such a result would be desirable. The Examiner has failed to appreciate this shortcoming or make up this deficit.

Similarly, Masuyama's interconnect is an indivisible, shared interconnect by which the various nodes in the system communicate. Thus, as with the switch fabric of Neches, the interconnect of Masuyama cannot enable the partitioning of its system into "a plurality of partitions" in which the portion of the point-to-point transmission infrastructure in each partition is "distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition."

The combination using Van Doren must also fail. That is, because the partitioning technique described in Van Doren depends on the hierarchical switch fabric which directly connects any one of the nodes to any other one of the nodes, the technique would have to be significantly altered to be operable in the kind of point-to-point infrastructure described in the present application with reference to Fig. 2. Van Doren does not contain any teachings as to how this might be accomplished, or even any suggestions that such a result would be desirable.

In addition, even if the combination using Van Doren was appropriate, by its very nature, Van Doren's switch fabric must be shared as a common resource among any partitions in that system. Thus, Van Doren cannot support a partitioning scheme in which the portion of the point-to-point transmission infrastructure in each partition is "distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition."

The combination using Lorenzen is also flawed. As previously stated, Lorenzen is not relevant to the claimed invention. Lorenzen also fails to make up the deficiencies of the combination of AAPA and Neches. First, Lorenzen describes techniques for altering routing recommendations in a telecommunications network, not the partitioning of resources in a computer system. In fact, no actual partitioning of resources in Lorenzen's telecommunications network occurs. It follows then that Lorenzen does not teach or suggest "a plurality of partitions" in which the portion of the point-to-point transmission infrastructure in each partition is "distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition."

Finally, references in Neches to partitioning relate to the logical grouping of processor modules which result in groups of processor modules which communicate independently of each other via the same shared resource, i.e., the indivisible switch fabric. So, while communications between different "superclusters" of processor modules do not interfere, they must continue to use the same physical transmission infrastructure. Thus, it is *impossible* for the technique described in Neches to result in a partitioning schema in which "the portion of the point-to-point transmission infrastructure in each partition [is] distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition." To the contrary, the transmission infrastructure in Neches' partitions *must* be overlapping.

3.2. Ground V – New ground of rejection

Given that combinations of references proposed by the Examiner are defective for a variety of reason, the Examiner's position in this appeal now hinges on whether the claim limitations relating to the "distinct" and "non-overlapping" nature of the partitions recited in the claims is supported by the present specification. The Appellant respectfully submits that it is.

First, the Appellant would like to point out that it is irrelevant whether or not the specification explicitly includes the terms "distinct" or "non-overlapping." Rather, it is well settled that appropriate inquiry is whether one of ordinary skill in the art, reading the present specification, would understand the inventor to be in possession of the claimed invention.

Claim 1 of the present application recites that the portion of the point-to-point transmission infrastructure in each partition is "distinct from and non-overlapping with the portion of the point-to-point transmission infrastructure in each other partition." As would be understood by one of ordinary skill in the art, this "distinct" and "non-overlapping" nature of the recited partitions is necessitated by the dedicated nature of the point-to-point links of which the point-to-point transmission infrastructure is comprised.

For example, at page 7, lines 17-23, the present specification provides:

According to specific embodiments, the service processor of the present invention has the intelligence to partition system resources according to a previously specified partitioning schema... This is achieved through direct manipulation of the routing tables associated with the system processors by the service processor which is made possible by the point-to-point communication infrastructure. The routing tables are used to control and isolate various system resources, the connections between which are defined therein.

And at page 20, lines 3-6, the present specification provides:

the present invention can be thought of as encompassing computer systems and methods of partitioning in which the partitioning is effected by the enabling and disabling of links between the systems processors, the links representing portions of the distributed point-to-

point transmission infrastructure by [sic] the processors are interconnected.

A depiction of such a point-to-point infrastructure and the dedicated, physical links of which it is comprised is shown in and described with reference to Fig. 3.

It would be abundantly clear to one of ordinary skill in the art from these passages and this figure that one could not create multiple partitions in such a system by enabling and disabling particular links, and yet have separate partitions which include links in common. That is, the isolation of system resources into “functionally separate partitions” as enabled by the present invention (which can be analogized to “opening and closing switches”), by definition and by the very nature of the transmission infrastructure, precludes the possibility of one link being included in more than one partition.

Thus, the partitioning of the transmission infrastructure described in the present application and recited in claim 1 necessitates “distinct” and “non-overlapping” portions of the infrastructure in each partition, and is to be contrasted with the virtual partitioning described in the references cited by the Examiner which is necessitated by the shared nature of the interconnects.

In view of the foregoing, the new ground of rejection raised by the Examiner in the Examiner’ Answer should be overturned. The rejection of claims 2-17, 19, 21-32, 34, and 36-41 should also be overturned for at least the reasons discussed.

4. CONCLUSION

In view of the foregoing, it is respectfully submitted that the Examiner's rejections of the claims of the present application as being unpatentable over the combination of AAPA and Neches, or these references in combination with any of Masuyama, Van Doren, and Lorenzen is erroneous. Accordingly, the rejection of claims 1-17, 19, 21-32, 34, and 36-41 under 35 U.S.C. §103(a) should be reversed.

It is also respectfully submitted that the Examiner's rejection of claims 1-17, 19, 21-32, 34, and 36-41, under 35 U.S.C. §112, first paragraph, as not being supported by the present specification is erroneous, and should be reversed.

Respectfully submitted,
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